

Appl. No. 08/808,315
Amdt. Dated June 25, 2004
Reply to Final Office Action of March 10, 2004

Attorney Docket No. 81880.0087
Customer No. 26021

REMARKS/ARGUMENTS:

Claims 22 and 25 are canceled without prejudice. Claims 20 and 23 are amended. Claims 20, 21, 23, and 24 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Applicant believes the foregoing amendments comply with requirements of form and thus may be admitted under 37 C.F.R. § 1.116(a). Alternatively, if these amendments are deemed to touch the merits, admission is requested under 37 C.F.R. § 1.116(b). In this connection, these amendments were not earlier presented because they are in response to the matters pointed out for the first time in the Final Office Action.

Lastly, admission is requested under 37 C.F.R. § 1.116(a) as presenting rejected claims in better form for consideration on appeal.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103:

Claims 20 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosoi et al. (U.S. Patent No. 4,908,074) in view of Yamazaki et al. (previously cited as Setsune, JP 61121042), and further in view of Iwasaki et al. (U.S. Patent No. 5,549,978). The Applicant respectfully traverses this rejection. Claim 20 was amended to include all the limitations of canceled claim 22. Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the above cited references and further in view of Nitta et al. (U.S. Patent No. 5,403,773). Claim 20, as amended, is as follows:

A sapphire monocrystal plate for epitaxially growing a semiconductor layer thereon, comprising:

a sapphire monocrystal having a major face, a working reference plane on a peripheral edge of the plate, the working reference

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plane being substantially parallel or perpendicular to a plane R of the sapphire monocrystal, wherein the major face is a plane A of the sapphire monocrystal and has a surface roughness (Ra) of 0.1 μm or less; and

a microcrack line on the major face parallel to the plane R for starting to cleave the plate.

Applicant respectfully submits that Hosoi, Yamazaki, Iwasaki, and Nitta cannot render claim 20 obvious, because the combination of references fails to teach or suggest a microcrack line on the major face parallel to the plane R for starting to cleave the plate. As acknowledged by the Office, Hosoi, Yamazaki, and Iwasaki do not disclose a microcrack line on the major face parallel to the plane R for starting to cleave the plate. Instead, the Office relies on Nitta for teaching that a wafer is scribed along cleavage lines and this scribing will inherently form a microcrack.

In response, the Applicant submits that Nitta actually teaches away from forming a microcrack line. As indicated by the Office, under the BACKGROUND OF THE INVENTION section, Nitta states,

"The double wafer processes make a lot of units of light emitting devices on a wafer. The wafer is scribed along cleavage lines and divided into individual device chips. One chip corresponds to one light emitting device. The chip will be mounted on a package with a lens and leads. Electrodes of the device chip will be connected to the leads of the package." (Nitta, column 3, lines 37-430).

However, Nitta goes on to state that the purpose of his invention is to avoid this double wafer process.

"A purpose of this invention is to provide a method of producing lens-bearing light-emitting devices without double wafer processes on

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both surfaces which tends to invite positioning errors between two surfaces." (Nitta, column 4, lines 32-35).

Therefore, Nitta teaches away from the present invention.

"A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." MPEP 2141.02

Therefore, without the benefit of the Applicant's disclosure, there would have been no incentive or reason for one of ordinary skill in the art to produce a sapphire monocrystal plate for epitaxially growing a semiconductor layer thereon which includes a microcrack line on the major face parallel to the plane R for starting to cleave the plate. In order to establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. MPEP 2143

"Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." MPEP 2143.01

In light of the foregoing, Applicant respectfully submits that the cited references could not have made claim 20 obvious, because the combination of references fails to teach or suggest each and every claim limitation. Claim 21 depends from claim 20 and cannot be made obvious for at least the same reasons as claim 20. Withdrawal of these rejections is thus respectfully requested.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosoi, Setsune, and Iwasaki as applied to claims 20-21 above, and further in view of

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Nitta et al. (U.S. Patent No. 5,403,773). This rejection is moot due to the cancellation of claim 22.

Claims 23-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamiyama et al. (U.S. Patent No. 5,787,104) in view of Yamazaki and further in view of Iwasaki. The Applicant respectfully traverses this rejection. Claim 23 was amended to include limitations of canceled claim 25. Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the above cited references and further in view of Nitta et al. (U.S. Patent No. 5,403,773). Claim 23, as amended, is as follows:

A sapphire monocrystal plate for epitaxially growing a semiconductor layer thereon, comprising:

a sapphire monocrystal having a major face, a working reference plane on a peripheral edge of the plate, the working reference plane being substantially parallel or perpendicular to a plane R of the sapphire monocrystal, wherein the major face is a plane A of the sapphire monocrystal and has a surface roughness (Ra) of 0.1 μm or less, wherein a semiconductor layer produced by epitaxial growth is on the major face; and

a microcrack line on the major face parallel to the plane R for starting to cleave the plate.

Claim 23, as amended, similarly requires a microcrack line on the major face parallel to the plane R for starting to cleave the plate, and therefore, cannot be rendered obvious over Yamazaki, Iwasaki, and Nitta for the same reasons discussed above. Kamiyama cannot remedy the defect of Yamazaki, Iwasaki, and Nitta and is not relied upon by the Office for such. Instead, the Office cites Kamiyama for disclosing a semiconductor laser diode comprising a substrate formed of a sapphire

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monocrystal, the substrate having a major face and a side face, the semiconductor laser being formed on the major face.

In light of the foregoing, Applicant respectfully submits that the cited references could not have made claim 23 obvious, because the combination of references fails to teach or suggest each and every claim limitation. Claim 24 depends from claim 23 and cannot be made obvious for at least the same reasons as claim 23. Withdrawal of these rejections is thus respectfully requested.

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kamiyama, Yamazaki, and Iwasaki as applied to claims 23-24 above, and further in view of Nitta. This rejection is moot due to the cancellation of claim 25.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 337-6700 to discuss the steps necessary for placing the application in condition for allowance.

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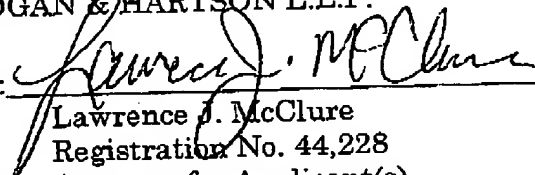
If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,

HOGAN & HARTSON L.L.P.

Date: June 25, 2004

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